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Entomology, published by the Smithsonian Institution, Washington, D. C. Send for its list of works for January, 1866, with the prices attached. We intend hereafter to publish in the NATURALIST an extended list of the most important works on Insects.

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## PROCEEDINGS OF SCIENTIFIC SOCIETIES.

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AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—The Sixteenth Annual Meeting was held at Burlington, Vermont, commencing on Wednesday, August 21, and continuing until Monday night, August 26, 1867.

In September, 1847, the "Association of American Geologists and Naturalists" resolved itself into the "American Association for the Advancement of Science." The new organization held its first meeting at Philadelphia, September, 1848. The objects of this Association are the holding of annual and migratory meetings, to promote intercourse between those who are cultivating science in different parts of the country, and to give impulse, system, facility, and wider usefulness to the labors of scientific men.

About seventy-five members from various parts of the country were in attendance during the five days' session at Burlington, and many interesting papers were read and freely discussed during the meeting.

The Association held its meetings in the rooms of the City Hall, the Court House, and the vestry of the Third Congregational Church, under the auspices of the Local Committee. Each morning there was a general meeting for business, and then the members adjourned to SECTION A, — *Mathematics and Physics*; or to SECTION B, — *Natural History and Geology*, as their tastes inclined.

On Friday evening, the President, Professor J. S. NEWBERRY, of Columbia College, New York, gave an address on *Modern Scientific Investigation—its Methods and Tendencies*. His address applied to the whole range of the sciences. It was comprehensive, profound, and ably written, and gave great satisfaction to the members present. This address will be published in full in the next number of the NATURALIST.

On Saturday, after a short session in the morning, the Association and their friends accepted the invitation of the Champlain Transportation Company, and made an excursion to the Au Sable Chasm, in Keeseville, New York, a singular and very beautiful chasm in the Potsdam rocks, through which the Au Sable River makes its way to the Lake.

In our next we shall endeavor to give abstracts of the various papers read before the NATURAL HISTORY SECTION, only having space in this number for their titles.

FIRST DAY.

*The Distribution of Precious Metals in the United States.* By Col. CHAS. WHITTLESEY.

SECOND DAY.

*The Geological Relations of the Mastodon and Fossil Elephant of North America.* By Prof. JAMES HALL.

*Considerations drawn from the Study of the Orthoptera of North America.* By SAMUEL H. SCUDDER.

*Traces of Ancient Glaciers in the White Mountains.* By G. L. VOSE.

*The Origin of the so-called Lignilites or Epsomites.* By Prof. O. C. MARSH.

*The Geographical Distribution of the Sediments and the Fossils of the Hamilton, Portage, and Chemung groups of New York.* By Prof. JAMES HALL.

*The Distribution of Limnæa megasoma and cognate genera.* By L. E. CHITTENDEN.

THIRD DAY.

*Tellurium a Metal.* By Prof. L. BRADLEY.

*Upon some remarkable Fossil Fishes obtained by Rev. H. Herzer from the Devonian Rocks at Delaware, Ohio.* By Prof. J. S. NEWBERRY.

*The Fossil Insects of North America.* By S. H. SCUDDER.

*The Winooski Marbles of Colchester, Vt.* By Prof. C. H. HITCHCOCK.

*The Zoological affinities of the Tabulate Corals.* By Prof. A. E. VERRILL.

*The Coal Measures of Illinois.* By Prof. A. H. WORTHEN.

*New Points in the Geology of Nova Scotia and New Brunswick.* By Prof. J. W. DAWSON.

FOURTH DAY.

*On some New Fossil Sponges from the Lower Silurian.* By Prof. O. C. MARSH.

*On the occurrence of Fossil Sponges in the successive groups of the Palæozoic Series.* By Prof. JAMES HALL.

*The American Beaver.* By LEWIS H. MORGAN.

*The Distortion and Metamorphosis of Pebbles in Conglomerates.* By C. H. HITCHCOCK.

FIFTH DAY.

*On some Fossil Reptiles and Fishes from the Carboniferous Strata of Ohio, Kentucky, and Illinois.* By Prof. J. S. NEWBERRY.

*Cotta's Law of the Earth's Development.* By R. W. RAYMOND.

*On Mountain Masses of Iron Ore in the United States.* By Col. CHARLES WHITTLESEY.

*On the Lower Silurian Brown Hematite Beds of America.* By B. S. LYMAN.

*Explanations of the Geological Map of Maine.* By Prof. C. H. HITCHCOCK.

*On the Geographical Distribution of Radiates on the West Coast of America.* By Prof. A. E. VERRILL.

*Considerations relating to the Climate of the Glacial Epoch in North America.* By Prof. EDWARD HUNGERFORD.

*Depression of the Sea during the Glacial Period.* By Col. CHAS. WHITTLESEY.

*Ripton Sea Beaches.* By Prof. EDWARD HUNGERFORD.

*On the Cretaceous and Tertiary Flora of North America.* By Prof. J. S. NEWBERRY.

*On certain Effects produced upon Fossils by Weathering.* By Prof. O. C. MARSH.

*Geology of Vermont.* By Prof. C. H. HITCHCOCK.

*The Insect Fauna of the summit of Mount Washington as compared with that of Labrador.* By Dr. A. S. PACKARD, JR.

*Remarks on the Ichthyological Fauna of Lake Champlain.* By F. W. PUTNAM.

*The Embryology of Libellula (Diplax?), with notes on the Morphology of Insects, and the classification of the Neuroptera.* By Dr. A. S. PACKARD, JR.

*On the Flowering of Plants.* By JAMES HYATT.

The following Resolution was proposed by Prof. O. C. MARSH, of Yale College,—

*Resolved*, That the chair appoint a commission of nine members to examine the Linnaean rules of Zoological Nomenclature by the light of the suggestions and examples of recent writers, and to prepare a code of laws and recommendations in conformity with the best modern usage, to be submitted to the Association at the next annual meeting; the committee to have authority to fill vacancies and increase their number to twelve, if deemed advisable.

This Resolution was unanimously adopted, and the chair appointed the following committee:—Prof. J. D. DANA, of Yale College; Prof. JEFFRIES WYMAN, of Harvard University; Prof. S. F. BAIRD, of the Smithsonian Institution; Prof. JOSEPH LEIDY, of the Philadelphia Academy of Natural Science; Prof. J. S. NEWBERRY, of Columbia College; Prof. J. W. DAWSON, of McGill College, Montreal; Dr. WILLIAM STIMPSON, of the Chicago Academy of Science; S. H. SCUDDER, of the Boston Society of Natural History; and F. W. PUTNAM, of the Essex Institute.

Dr. HENRY WHEATLAND, Secretary of the Essex Institute, offered a resolution, which was unanimously adopted, tendering the thanks of the Association to GEORGE PEABODY, Esq., for his munificent donations, amounting to over four million of dollars, for the increase of science and education in the United States.

The President was requested by the Association to forward a copy of the resolution to Mr. Peabody.

After the adjournment of the meeting on Monday night, the members met at the house of Dr. WM. C. HICKOK, and passed the few last hours of their stay in Burlington most pleasantly.

On the following day a number of the members accepted the invitation of W. H. H. BINGHAM, Esq., to visit Mt. Mansfield, where they were most cordially entertained.

The next meeting will be held at Chicago, commencing on the first Wednesday of August, 1868.

The following are the officers for the next meeting:—

*President*, Dr. B. A. GOULD, Cambridge. *Vice President*, Col. CHAS. WHITTLESBY, Cleveland, Ohio. *Permanent Secretary*, Prof. JOSEPH LOVERING, Cambridge. *General Secretary*, Prof. A. P. ROCKWELL, New Haven. *Treasurer*, Dr. A. L. ELWYN, Philadelphia.

The Association were invited to hold the meeting of 1869 in this city (Salem), and should they accept, as we earnestly hope they will, we know they will be most cordially welcomed by our citizens.

BOSTON SOCIETY OF NATURAL HISTORY. *March 20, 1867.*—Mr. A. L. Fleury, of New York, read an essay entitled: “Rocks in Nature and in the Arts,” treating of the physical and chemical properties of

quartz, and the theories proposed to account for its origin. Observing that in nature quartz-rock is often dissolved in water by the formation and subsequent decomposition of sulphide of silicium, either with or without alkaline agency, he showed how we might follow the path thus indicated, and produce, artificially, a liquid hydrate of silica.

The Secretary read a paper by Col. Whittlesey, of Cleveland, on the weapons and military character of the Race of the Mounds. The author brought to notice the curious fact, that while extensive fortifications built by the Mound race remain scattered over the plains of Ohio, no weapons formed exclusively for warfare have yet been discovered, nor are there any indications that the defences have ever been attacked. He concluded that the weapons were probably made of wood, and that the fortifications were abandoned on the approach of the foe. He also remarked that while in Europe ethnological writers distinguish the progress of mechanical arts among men as the ages of Stone, of Bronze, and of Iron, in the Western States the ancient inhabitants did not follow this order of progress, but rather retrograded. He believed that the European age of Bronze corresponded to the age of Copper in this country, to which the age of Stone has *succeeded*, and that to this age the Indians of the present day belonged.

*April 4, 1867.*—Mr. James G. Swan presented a paper on the Meteorology of Cape Flattery, Washington Territory, the result of personal observation of the thermometer and rain gauge for three consecutive years.

Dr. Andrew Garratt exhibited a bony mass taken from the interior of the heart of a right whale; it was attached by two knoblike projections to the base of the valves, and hung free in the cavity of the heart. On examination, Dr. J. C. White had found it to be composed of an external shell of fibrous tissue, dense and glistening like parchment, and an interior spongy mass of a brownish and somewhat fatty substance; it seemed to be a coagulum of fibrine, or possibly a pathological growth from the valves of the heart.

At the last meeting of the Section of Entomology—records of which were read at this time—Mr. S. H. Scudder exhibited drawings and specimens of fossil insects from the Devonian rocks of New Brunswick. Six tolerably well-preserved specimens had been obtained by Mr. C. F. Hartt, all belonging to the Neuroptera, or lace-winged flies, but differing greatly from any now living. They were the earliest traces of insect life yet discovered, the oldest insects previously known having been found in the Carboniferous strata.

Mr. Scudder exhibited a photograph of another fossil wing, found in the Carboniferous rocks of Cape Breton. It was simple in structure, of gigantic size, and probably belonged to the May flies.

Some notes of a visit to the Pinjrapal, or animal hospital of Bombay, were read by Mr. W. T. Brigham. A space of six or seven acres in the heart of the city was enclosed, and divided into wards, for the reception of sick and helpless animals; cattle, deer, dogs, goats, monkeys, and even tortoises, had all their separate abodes; fish, too, rescued from impending death by the pious Hindoos, whose religion forbids the destruction of animal life, swam unmolested in their proper tanks. No surgical aid seemed to be given, but the animals were well fed and cared for by a large staff of attendants or nurses. There are several of these establishments in India, supported by the donations of wealthy Hindoos.

*April 18, 1867.* — Dr. Jeffries Wyman gave an account of an excursion he had recently made to the St. John's river, Florida, for the purpose of examining the Indian antiquities of that region. His attention was especially given to the shell mounds. These mounds are of two kinds; those on the sea-coast, made up of *marine* shells, as at Fernandina and St. John's bluffs, and those found inland, which are composed entirely of *fresh-water* shells. Twenty-eight of the latter, situated between Pilatka and Salt Creek, were examined. Although they have not hitherto been attributed to the aborigines, there is abundant evidence that Indians lived upon them from their commencement up to the time of their completion: pottery, bones of edible animals, such as deer, wild turkeys, ducks, soft-shelled turtles and catfish were scattered throughout their whole extent. Beds of charcoal were found at various depths resting on calcined shells, and near them were fragments of burnt bones. Ornaments and flint implements were very rare, but a few miles above Pilatka, a worked flint was discovered in the sand under a shell mound eight feet high. The shells were principally univalves of the genera *Ampullaria* and *Paludina*, with some fresh-water mussels, *Unionidae*.

The age of these mounds was not determined, but the occasional occurrence of live oaks five feet in diameter proved that the mounds had not been materially increased since the advent of the white man, more than three centuries ago.

There was a marked variety in the fragments of pottery belonging to different localities. Specimens from the upper portion of the river were slightly ornamented by square and regular indentations; those from the neighborhood of Lake Munroe were marked by complicated figures, traced on the clay with a pointed instrument, while near the

mouth of the river these patterns became still more elaborate, and in almost every instance the clay, forming the earthen ware, was mixed with sand. This was rarely the case in specimens obtained from the upper waters.

ACADEMY OF SCIENCES. *Chicago, June 11, 1867.*—The Secretary presented a paper entitled "Contributions to Comparative Geography," by Dr. Herman Haig, accompanied by a letter from the author, in which he stated that he had submitted the same to Humboldt shortly before his death, but that the paper had been returned unopened. He now desired to lay it before the Academy in the hope that his discoveries would meet with public recognition through their means. On motion, the paper was referred to a committee of three, consisting of Dr. Rauch, Professor Stimpson, and Professor Daniels.

A paper was presented from Charles A. White, M. D., and O. H. St. John, entitled, "Descriptions of New Subcarboniferous and Coal Measure Fossils, collected upon the Geological Survey of Iowa, together with a notice of new generic characters observed in the species of brachiopods."

*July 9.*—The Secretary read abstracts of a couple of papers by Professor T. H. Safford, one on the motion of the solar system in space, and the other relative to observations on nebulae with the large reflectors of the Dearborn Observatory. The papers were referred to a special committee, composed of Dr. Blaney and the Secretary.

Dr. Blaney then made some remarks on the spectral analysis, the manner of using it, and the purposes for which it was employed.

The presiding officer spoke in reference to the continued discoveries of silver in Colorado.

Dr. Blaney reported that he had assayed some chips taken from the bottom of a well in Canada, dug down three feet deep in the rock, and got out \$9 in silver. The well had been dug under spiritual guidance.

Remarks were made by the presiding officer and Dr. Blaney, relative to salt deposits in the Western Territories, after which the meeting adjourned.

ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA. *March 19, 1867.* Prof. E. D. Cope presented to the Academy a young specimen of the Whale, known as the Bahia Finner, procured near Bahia, Brazil; the length was twenty-one feet. It was shown to belong to the genus *Megaptera* Gray, the Hump-back Whale of sailors.

Dr. Leidy exhibited a number of plates of a forthcoming work on the extinct mammals of Nebraska and Dacota, among which was

one representing an almost complete skull of an animal, which he characterized under the name of *Agriochærus latifrons*.

Prof. Ennis inquired whether remains of the Hippopotamus had been found in this country. Dr. Leidy replied that no evidence existed of the animal, though Mr. J. A. Conrad had at one time a tooth which he considered to have belonged to the Hippopotamus.

April 9, 1867. — Professor H. C. Wood, jr., presented a paper entitled, "Description of New Species of Texan Myriapoda."

A paper was read from Isaac Lea, LL. D., on two new minerals (*Lesleyite* and *Patersonite*), from Chester county, Pennsylvania.

Professor Ennis spoke of the "Geological Changes resulting from the rise and fall of the Ocean level;" also upon the "Natural History of Man."

Professor Cope exhibited several vertebræ of a new species of Gavial (*Thoracosaurus brevispinus* Cope), from the cretaceous marl of Burlington county, New Jersey.

April 23, 1867. — Mr. J. Cassin read a paper entitled, "A third Study of the Icteridæ — Sub-family Icterinæ."

## BOOKS RECEIVED.

*Petroleum in North America.* By Professor C. H. Hitchcock. (Extracted from the Geological Magazine, January, 1867.) 8vo, pp. 3.

*Some account of Baretia, a new and remarkable Fossil Shell from the Hippurite Limestone of Jamaica.* By S. P. Woodward. Reprinted from the Geologist, 1862. Plate 1, 2. 8vo, pp. 8.

*On some Points in the Structure of the Xiphosura, having reference to their relationship with the Eurypteridæ.* By Henry Woodward. (From the Quarterly Journal of the Geological Society for February, 1867.) Plate 1, 2. 8vo, pp. 9.

*Some Observations on the Zoantharia Rugosa.* By Gustave Lindström, Ph.D. One plate. (Extracted from the Geological Magazine, Aug. and Sept., 1866.) 8vo, pp. 14.

*Quarterly Journal of Science.* April, 1867. London.

*Results of Meteorological Observations made at Brunswick, Maine, between 1807 and 1809.* By Parker Cleaveland, LL. D. Reduced and discussed by Charles A. Schott. From the Smithsonian Contributions. 1867.

*The American Bee Journal and Gazette.* Vol. II. No. 13, July, August, 1867.

*The Chemical News and Journal of Physical Science.* Vol. I. No. 1, 2. July, August, 1867.

*Prize Essay on Medical and Vital Statistics.* By F. B. Hough, M. D. Albany, 1867. 8vo, pp. 37.

*Notes on Wilson's Readers.* By S. S. Haldeman. 1866. 8vo, pp. 24.

*State Geological Survey of Iowa. Preliminary Notice of New Genera and Species of Fossils.* By C. A. White, M. D., State Geologist, and O. H. St. John, Assistant. 8vo, pp. 2.

*A Third Study of the Icteridæ.* By John Cassin. 1867. 8vo, pp. 74.

*On Colonies of Plants observed near Philadelphia.* By Aubrey H. Smith. 1867. 8vo, pp. 10.

*Ambas Americanas, Revista de Educacion, bibliografía i Agricultura, bajo los Auspicios de D. F. Sarmienta.* Volumen I. Nueva York, 1867. 8vo.

*Chemistry of the Farm and the Sea, and other familiar Chemical Essays.* By J. R. Nichols, M. D. Boston, 1867.